

U.S. Application No. 09/964,475

**BEST AVAILABLE COPY****Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. – 33. (canceled)

34. (currently amended) ~~A structured document searching and displaying method of performing a full text search on elements designated to a structured document and highlight displaying information on a position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, said method comprising steps executed by the processor, said steps comprising~~ A computer-implemented method for searching and displaying a structured document including performing a full-text search on elements designated to the structured document and highlighted displaying of information on a position of the document meeting a search result, the method comprising the steps of:

generating an analyzed result of ~~a structured~~ the structured document to be searched;

removing a pre-designated element from the analyzed result of ~~structured the~~ structured document, and concatenating a content character string of a higher-rank element than the removed pre-designated element with a content character string ~~having of the removed element~~ pre-designated element, to thereby generate a ~~structured the structured~~ document for ~~full-text a full-text~~ search including the

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concatenated content of character strings, and further generating information for restoring the removed pre-designated element;

acquiring information on a position meeting a query to the structured document for ~~full-text~~ the full-text search;

converting the information on the position meeting ~~query to the structured document for the full document search,~~ the query into information on a position of the document meeting ~~a query~~ the query in the original analyzed structured document;

~~additionally adding element information for highlight displaying the highlighted~~ displaying of the information on the position meeting the query, to the original analyzed structured document; and

generating a text string of ~~structured the structured document for displaying,~~ from the analyzed structured document with the element information ~~additionally added thereto for highlight displaying the information on the position meeting the~~ query.

35. (currently amended) A structured document searching and displaying method according to claim 34, wherein when the conditions are met for the relative positions of occurrence of two query terms in a query, the respective query terms constituting the query are displayed in ~~highlight~~ highlighted fashion with different display formats from each other.

36. (currently amended) A structured document searching and displaying method according to claim 34, wherein each of a plurality of query terms constituting

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a query and the whole element including said query terms are displayed in ~~highlight~~  
highlighted fashion with different display formats.

37. (currently amended) A structured document searching and displaying method according to claim 34, wherein a ~~highlight~~highlighted display format for ~~highlight~~highlighted display is set using a method specified in said query.

38. (currently amended) A structured document searching and displaying method according to claim 34, wherein the result of search is displayed in ~~highlight~~highlighted fashion using any one of a plurality of highlight display formats for each query term.

39. (currently amended) A structured document searching and displaying method according to claim 38, wherein the ~~highlight~~highlighted display format for each query term is determined based on the information on the occurrence frequency of each query term.

40. (currently amended) A structured document searching and displaying method according to claim 38, wherein the display format of ~~highlight~~highlighted display for each query term is determined based on the information in the weighting predetermined for each query term.

41. (currently amended) A structured document searching and displaying method according to claim 34, ~~further comprising:~~wherein

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~~in said step of generating a text string of structured~~ includes a step of  
~~document for displaying, from the analyzed structured document to which the~~  
~~structure information for highlight displaying the information on the position of the~~  
~~document meeting the query is additionally added, producing a~~ the text string of a  
~~structured document for display of sub-elements to be displayed, from sub-elements~~  
~~of the analyzed structured document corresponding to the sub-elements to be~~  
~~displayed.~~

42. (currently amended) ~~A structured document searching and displaying~~  
~~method of performing a full-text search on elements designated to a structured~~  
~~document and highlight displaying information on the position of the document~~  
~~meeting a search result, in an information processing system including a processor,~~  
~~a memory unit, a file unit and an input/output unit, said method comprising steps~~  
~~executed by the processor, said steps comprising~~ A computer-implemented method  
for searching and displaying a structured document including performing a full-text  
search on elements designated to the structured document and highlighted  
displaying of information on a position of the document meeting a search result, the  
method comprising the steps of:

~~registering a structured~~ the structured document as a text including element  
information;

~~by scanning said text containing element information from the beginning of the~~  
~~text, performing a full-text search to the text skipped as to,~~ while skipping the  
element information included in the ~~text~~ text, to acquire a position of the structured

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document meeting a query and a position of the element information included in said position of the structured document;

acquiring portions of the text including the element information other than the position of element information among the positions of the structured document meeting the query, as highlighted display objective positions; and

generating ~~a structured document~~ the structured document, with element information for highlighted display being added to respective ones of said highlighted display objective positions.

43. (currently amended) ~~A structured document searching and displaying method of performing a full-text search on elements designated to a structured document and highlight displaying information on the position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, said method comprising steps executed by the processor, said steps comprising~~ A computer-implemented method for searching and displaying a structured document including performing a full-text search on elements designated to the structured document and highlighted displaying of information on a position of the document meeting a search result, the method comprising the steps of:

registering ~~a structured~~ the structured document as a text including element information;

~~by scanning said text including element information from the beginning of the text, performing a full-text search to the text with,~~ while skipping element information included in the text,

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to acquire the position of the attribute information among element information included in the position of the structured document meeting a query;

~~additionally adding the attribute information among element information~~  
included in the position of the structured document meeting ~~a query~~ the query to the content character string of the text to generate ~~a structured document~~ the structured document, with element information for highlighted ~~display~~ displaying of the position of the structured document meeting the query added to the attribute information added to the content character string.

44. (currently amended) ~~A structured document searching and displaying method of performing a full-text search on elements designated to a structured document and highlight displaying information on the position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, said method comprising steps executed by the processor, said steps comprising~~ A computer-implemented method for searching and displaying a structured document including performing a full-text search on elements designated to the structured document and highlighted displaying of information on a position of the document meeting a search result, the method comprising the steps of:

scanning said text containing element information from the beginning of the text to determine whether or not a position meeting a query is interposed between a specific tag indicating the start of a predetermined document element and a specific tag indicating the end of said document element; and

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when said position is so interposed, additionally adding a character string string, including a character string of the position meeting said ~~query~~ query, to the content before the specific tag indicating the start of the document element or after the tag indicating the end of the document element, and generating ~~a structured~~ the structured document ~~for display~~ with element information added thereto for highlighted ~~display~~ displaying of the position meeting said query in said character string.

45. (currently amended) ~~A structured document searching and displaying method of performing a full-text search on elements designated to a structured document and highlight displaying information on the position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, said method comprising steps executed by the processor, said steps comprising~~ A computer-implemented method for searching and displaying a structured document including performing a full-text search on elements designated to the structured document and highlighted displaying of information on a position of the document meeting a search result, the method comprising the steps of:

registering ~~a structured~~ the structured document as a text including element information;

~~by scanning said text containing element information from the beginning of the text, performing a full-text search to the text-skipped as to,~~ while skipping the element information included in the ~~text~~ text, to acquire a position of the structured

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document meeting a query and a position of the element information included in said position of the structured document;

acquiring portions of the text including the element information other than the position of element information among the positions of the structured document meeting the query, as highlighted display objective positions; and

~~generating a structured document~~ the structured document, with element information for highlighted display being added to respective ones of said highlighted display objective positions, which element information is designated by said query.

46. (currently amended) A structured document searching and displaying apparatus for performing a full-text search on elements designated to ~~a structured document~~ the structured document, and ~~highlight displaying for highlighted-~~ displaying of information on a position of the structured document meeting a search result, said apparatus including a processor, a memory unit, a file unit and an input/output unit, said processor comprising:

structured document analyzing means for generating an analyzed result of ~~a structured~~ the structured document to be searched;

means for removing a pre-designated element from the analyzed result of ~~structured~~ the structured document, and concatenating a content character string of a higher element than the removed pre-designated element with a content character string having of the removed element pre-designated element, to thereby generate a ~~structured~~ the structured document for ~~full-text~~ a full-text search including the concatenated content character strings, and further generating information for restoring the removed pre-designated element;



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full-text searching and processing means for acquiring information on ~~the a~~  
position of the document meeting a query to the structured document for ~~full-text the~~  
full-text search;

means for converting the information on the position of the document meeting  
query to the structured document for the full document search, the query into  
information on the position of the document meeting ~~a the~~ query in the original  
analyzed structured document;

means for ~~additionally~~ adding element information for ~~highlight displaying the~~  
highlighted displaying of the information on the position of the document meeting the  
query, to the original analyzed structured document; and

means for generating a text string of ~~structured the structured~~ document for  
~~displaying~~, from the analyzed structured document with the element information  
~~additionally~~ added thereto for ~~highlighted display of the information on the position of~~  
~~the document meeting the query~~.

47. (currently amended) A program for implementing a structured document  
searching and displaying method of performing a full-text search on elements  
designated to ~~a structured document the structured document~~, and for highlight-  
displaying information on a position of the document meeting a search result, in an  
information processing system including a processor, a memory unit, a file unit and  
an input/output unit, said method comprising steps executed by the processor, said  
steps comprising:

generating an analyzed result of ~~a structured the structured~~ document to be  
searched;

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removing a pre-designated element from the analyzed result of ~~structured the~~ structured document, and concatenating a content character string of a higher element than the removed pre-designated element with a content character string ~~having of the removed element~~ pre-designated element, to thereby generate a ~~structured the structured~~ document for ~~full-text a full-text~~ search including the concatenated content character strings, and further generating information for restoring the removed pre-designated element;

acquiring information on ~~the a~~ position of the document meeting a query to the structured document for ~~full-text the full-text~~ search;

converting the information on the position of the document meeting ~~query to the structured document for the full document search, the query~~ into information on the position of the document meeting ~~a the~~ query in the original analyzed structured document;

~~additionally adding element information for highlight displaying the highlighted~~ displaying of the information on the position of the document meeting the query, to the original analyzed structured document; and

generating a text string of ~~structured the structured~~ document ~~for displaying~~, from the analyzed structured document with the element information ~~additionally added thereto for highlight displaying the information on the position of the document meeting the query~~.

48. (currently amended) A computer-readable recording medium for storing a program, executable by a computer, for implementing a structured document searching and displaying method of performing a full-text search on elements

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designated to the structured document, and for highlight-displaying information on a position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, said method comprising steps executed by the processor, said steps comprising:

\_\_\_\_\_ generating an analyzed result of the structured document to be searched;

\_\_\_\_\_ removing a pre-designated element from the analyzed result of the structured document, and concatenating a content character string of a higher element than the removed pre-designated element with a content character string of the removed pre-designated element, to thereby generate the structured document for a full-text search including the concatenated content character strings, and further generating information for restoring the removed pre-designated element;

\_\_\_\_\_ acquiring information on a position of the document meeting a query to the structured document for the full-text search;

\_\_\_\_\_ converting the information on the position of the document meeting the query into information on the position of the document meeting the query in the original analyzed structured document;

\_\_\_\_\_ adding element information for the highlighted displaying of the information on the position of the document meeting the query, to the original analyzed structured document; and

\_\_\_\_\_ generating a text string of the structured document, from the analyzed structured document with the element information added thereto, method according to claim 34.

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49. (currently amended) ~~A structured document searching and displaying method of performing a full text search on elements designated to a structured document and highlight displaying information on a position of the document meeting a search result, in an information processing system including a processor, a memory unit, a file unit and an input/output unit, comprising steps of~~ A computer-implemented method for searching and displaying a structured document including performing a full-text search on elements designated to the structured document and highlighted displaying of information on a position of the document meeting a search result, the method comprising the steps of:

acquiring a position of the structured document meeting a query from a content character string ~~concentrated~~ concatenated with element information having pre-designated element information removed from the structured document;

converting the acquired position into a ~~posittion~~ position of the original structured document meeting the query;

inserting a start tag of highlighted ~~display~~ displaying of information on the converted position, into the beginning of the position of the original structured document meeting the ~~query~~ query, and inserting an end tag of highlighted ~~display~~ displaying of said information on the converted position, into the end of the position of the original structured document meeting the query; and

when element information is included in the position of the original structured document, inserting an end tag for highlighted ~~display~~ displaying of the information on the converted position, before the element ~~information~~ information, and inserting a start tag for highlighted ~~display~~ displaying of the information on the converted position after the element information.

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